#29 Zoltán Novák, Mihály Jánószky, Sándor Alex Nagy, István Bácsi
Department of Hydrobiology, University of Debrecen, Debrecen, Hungary

ZINC TOLERANCE OF *DESMODESMUS QUADRICAUDATUS* (TURPIN) HEGEWALD AND ZINC REMOVAL ABILITY OF LIVING AND DEAD BIOMASS OF THE GREEN ALGA

Environmental pollution by human activities has become a global problem in recent years. Metals are one of the most dangerous materials among chemical contaminants. Algae play more and more important roles in a wide range of economical and environmental issues, they are involved in wastewater treatment and sequestering of toxic, essential or precious metals. *Desmodesmus* species are common, ubiquist organisms. They can be easily cultured and maintained in laboratory and they are widely used for biotechnological processes. Results of the present work show that *Desmodesmus quadricaudatus* (earlier: *Scenedesmus quadricauda* (Turpin) Brébisson) can tolerate zinc in the range of 2,5-15 mg/L concentration, so the species can be characterized with moderate zinc tolerance among green algae. The growth rates of the cultures were reduced by the increasing zinc concentrations. Maximal zinc removal was observed in the 5 mg/L zinc-treated culture (87,6% of the added zinc was removed) and greater part of bound zinc was extracellular (77-89%). Dead biomass could bind significant amount of zinc (56-58%), however zinc binding of the same amount of living biomass was significantly higher.

Our results and literary data of zinc tolerance and zincbindingcharacteristics for different *D.quadricauda*isolates show highsimilarities, so these characteristics seem to be general for the species.